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The Strengths and Difficulties Questionnaire (SDQ): A proxy measure of parenting stress

Abstract

The Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997) is a brief behavioural screening questionnaire for three to 16 years olds. It is commonly used in clinical practice and research, particularly in the UK, and is completed by parents, carers and teachers. The measure was utilised in a cross-sectional phase of a longitudinal study of children in care, namely the Care Pathways and Outcomes Study, alongside a measure of parenting stress, the Parenting Stress Index – Short Form (PSI-SF) (Abidin, 1995), with a sub-sample of children (n=72) aged nine to fourteen, and their parents and carers. A Pearson Correlation Coefficient indicated a strong positive correlation between these two measures ($r = .71$), with normal and abnormal scores on one measure corresponding to normal and abnormal scores on the other. Consequently, it is argued that the SDQ may be considered a proxy measure of parenting stress, with scores in the clinical range being highly predictive of clinical levels of parenting stress. As such, SDQ-informed interventions for adopted children and children in care, and others where behavioural problems have been detected, should be developed to include a consideration of the needs of parents and carers, specifically in relation to reducing levels of parenting stress.

Keywords: Behaviour; stress; foster; care; support

Introduction

'Care Pathways and Outcomes' is a longitudinal study that has been tracking the placement profile for a population of children (n=374) who were under the age of five and in care in Northern Ireland on the 31st March 2000 (McSherry, Fargas Malet, and Weatherall, 2013). The study has assessed how sub-samples of the children and their parents and carers are coping at a number of intervals over the intervening period. In the last two phases of the study, a measure to assess the children's behavioural and emotional functioning was utilised, namely the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997), in addition to a measure to assess parent and carer level of parenting stress, namely the Parenting Stress Index – Short Form (Abidin, 1995). This paper focuses on the extent to which parent and carer scores correlate on these two measures and explores the implications of such for policy and practice, particularly given the fact that the SDQ is used ubiquitously in clinical, educational, and social work practice across the UK.

The Strengths and Difficulties Questionnaire

The Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997) is a brief behavioural screening questionnaire for three to 16 years olds, which is completed by parents, carers and teachers, and is commonly used in clinical, educational and social work practice and research. It provides subjective perspectives on the behaviour of individual children. In the UK, it is commonly used in research in the area of children in care, and adopted from care (Biehal *et al.*, 2010; Rees, 2013; Thomas, 2013; McSherry, Fargas Malet, McLaughlin *et al.*, 2015; McSherry, Fargas Malet and Weatherall, 2016) and there is a statutory duty on all social service departments across England to use the SDQ with all children entering the care system (DCSF, 2008; DfE, 2015). The measure is also widely used outside of the UK across multiple research areas, including care (Jimenez, Mata, Leon & Muñoz, 2013; Jimenez-Morago, Leon & Roman, 2015; Goemans, Van Geel & Vedder, 2016) and adoption (Reinoso & Forns, 2010; Lee *et al.*, 2015). The SDQ website refers to the test being included in just under four thousand publications, across 102 countries (<http://www.sdqinfo.com/>).

The Parenting Stress Index – Short-Form

The Parenting Stress Index – Short Form (PSI-SF) (Abidin, 1995) is a brief version of the Parenting Stress Index, and is an internationally-applied and well-researched measure of parenting stress (Abidin, 1995). Similar to the SDQ, it has been widely used in clinical practice and research in the UK. The measure has also been used internationally with parents or carers of children with autism (Zaidman-Zait *et al.*, 2010; Hall & Graff, 2011; Dardas & Ahmad, 2014), ADHD (Theule *et al.*, 2013), cerebral palsy (Parkes *et al.*, 2011), and living in low income families (Reitman *et al.*, 2002). However, in the UK, it has rarely been used to explore the stress related to caring for children in care and adopted from care (McSherry, Fargas Malet and Weatherall, 2013; 2016; Harris-Waller *et al.*, 2016).

These two measures were included in the Care Pathways and Outcomes Study to allow for comparisons to be drawn between the subjective experiences of different groups of parents and carers in terms of the behaviour of the children they were caring for, and how this was related to their subjective experiences of the stress involved in caring for these children.

The Care Pathways and Outcomes Study: Phases and findings

Phase 1 (2000–2003)

The Care Pathways and Outcomes Study began in 2000 and focused on exploring the number and types of placements provided to a population of children who were under the age of five and in care in Northern Ireland on the 31st March 2000, over a two-year period (2000–2002). In addition, an extensive review was conducted of social work case files up to 2000. It was found that age of entry to care and geographic location were the strongest predictors of either being adopted or returning home to birth parents (McSherry *et al.*, 2008; 2010).

Phase 2 (2003–2006)

Phase 2 of the study focused on how the children were progressing in their placements, from their

parents'/carers' perspectives, and also how these parents/carers were coping themselves. A third study population placement profile was established for 31 March 2004, when the children were aged between four and eight years old. A sub-sample (n=116) of the children's parents/carers were interviewed: adoptive parents of 51 children; long-term foster carers of 56 children; and birth parents of nine children. Amongst other measures, parents and carers completed the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997), and the Parenting Stress Index –Short Form (PSI-SF) (Abidin, 1995). In terms of these two measures, findings indicated that adopted children were doing marginally better than children in long-term foster care, and that both these groups of children were faring markedly better than those children returned to birth parents (McSherry *et al.*, 2008; 2010).

Phase 3 (2006–2010)

Phase 3 aimed to explore the perspectives of the children themselves, in addition to their parents and carers, across the different placement types. The SDQ and PSI-SF were again used with parents and carers. Findings again indicated that on these two measures, significantly less adoptive parents scored within the clinical domains on both measures than foster carers and the birth parents of children who had been rehabilitated (McSherry, Fargas Malet and Weatherall, 2013; 2016). This paper is based on findings from the third phase of the study and focuses on examining the relationship between parent and carer responses to both the SDQ and PSI-SF.

Children's behaviour in care and adopted from care

A vast body of international research has highlighted the prevalence of emotional and behavioural difficulties among children in care and adopted from care (McCarthy *et al.*, 2003; Meltzer *et al.*, 2003; Richards *et al.*, 2006; Connell *et al.*, 2006; Vanderploeg *et al.*, 2007; Sempik *et al.*, 2008; Vostanis, 2010; Pecora *et al.*, 2010; Stein & Dumaret, 2011; Dregan, Brown, & Armstrong, 2011; Radford *et al.*, 2011; Courtney *et al.*, 2013; McSherry, Fargas Malet, McLaughlin *et al.*, 2015; Havlicek & Courtney, 2015). Significant majorities of these children have been found to fall within the

abnormal range on the SDQ Total Difficulties score, based on parent and carer reports (Dunne & Kettler, 2008; Milburn *et al.*, 2008; Egelund & Lausten, 2009; Biehal *et al.*, 2010; McSherry, Fargas Malet and Weatherall, 2016). This is not surprising considering that these children are likely to have experienced early life stress (ELS), and there is a well-established link between the experience of early adversity and behavioural problems (Hanson *et al.*, 2015).

Parenting stress, care, and adoption

It is widely acknowledged that some degree of stress from parenting is to be expected (Cameron *et al.*, 1991; Nomaguchi & Milkie, 2003). If parenting stress is experienced within the confines of boundaries, without it leading to negative consequences, then it can be a source of stimulation and an opportunity for growth (Abidin, 1992). In contrast, stressed-out parents who are irritable, uncommunicative, critical and harsh in their parenting style are more likely to cause problematic behaviour in their children, which in turn, can result in further stress, thus creating a vicious circle (Webster-Stratton, 1990). Watson *et al.* (2011) commented that most research on parenting stress indicates that families of children with some form of disability are negatively impacted and, as a consequence, experience more instability and dysfunction than typical families.

Bearing in mind the stresses of 'normal' parenting, adoptive and foster parents/carers are caring for children who may have past experience of the care system, or who remain within the care system, and as such face greater parenting challenges than the norm. Research evidence consistently demonstrates that children in care have greater emotional disturbance than the general population (Meltzer *et al.*, 2003; Ford *et al.*, 2007; McSherry, Fargas Malet, McLaughlin *et al.*, 2015).

Yet, there is an expectation that when children enter the care system, their new care placement will provide compensatory experiences that enable healthy development (Morgan & Baron, 2011). This is despite the fact that these children will typically have medical and health problems, dysfunctional attachments, cognitive and learning challenges, as well as behavioural and psychiatric disorders (Carbone *et al.*, 2007). At the same time, these adoptive and foster

parents/carers are expected to manage often very sensitive relationships with birth family members (perhaps more so in foster care), their own family tensions, the potential for complaints or allegations, and social work involvement (Wilson *et al.*, 2000). Furthermore, unlike foster parents/carers, adoptive parents do this outside of the confines of a formal statutory support system (McSherry, Fargas Malet and Weatherall, 2016).

There is also evidence that these stresses can impact the stability of placements (Rushton & Dance, 2006). Farmer, Lipscombe & Moyers (2005) examined the extent of strain on the foster parents/carers of adolescents and found that their parenting capacity was markedly reduced in a number of specific areas where a high number of stressful events had been experienced in the six months prior to the young person's arrival and were under considerable strain during the placement. They found that conduct problems, hyperactivity and violent behaviour by the young people increased foster parent/carer strain, as did contact difficulties with birth family members. Critically, higher placement disruption rates were experienced for young people whose foster parents/carers were under the most strain.

Research on the relationship between parenting stress and placement disruption in adoption is limited, but it may be postulated that as adoptive parents have been shown to demonstrate higher levels of parenting stress than the normal population (McGlone *et al.*, 2002; Judge, 2004; McSherry *et al.*, 2008; McSherry, Fargas Malet and Weatherall, 2013), one might expect these stresses to be placing strain on the stability of placements, in the same way that this occurs in foster care.

Caregivers stress and children's behavioural problems

The research base highlights concerns regarding the subjective perspectives of those parenting children in care and adopted from care, in relation to the behaviour of the children's they are caring for, and their level of parenting stress. There is some evidence of a link between child behavioural problems and parenting stress, particularly for parents or caregivers of children with developmental

disabilities (Woodman, Mawdsley & Hauser-Cram, 2015) or with Autistic Spectrum Disorders (Davis & Carter, 2008; Osborne & Reed, 2009). Some studies have also found links between children's behaviour and caregiver psychological distress or depression. For example, in a US study of children raised by grandmothers, it was found that increased psychological distress (measured by the Brief Symptom Inventory) in grandmothers was a predictor of child behavioural problems (measured by the Child Behavior Checklist) (Kelley, Whitley & Campos, 2011).

This article is focused on establishing whether or not there is a relationship between parent and carer scores on the SDQ and PSI-SF. This is particularly relevant due to the fact that the SDQ is being used in routine social work assessments in the UK, and any correlation with parenting stress may have implications for social work policy and practice.

Methodology

Design

Although the third phase of a longitudinal study, a cross-sectional approach was primarily taken to data collection and analysis. Thus, we aimed to find out how the children and their parents/carers were faring contemporaneously, rather than examining the data with specific reference to data gathered during earlier phases of the study. In order to examine the longer-term difference in outcomes across the five different placement types, the third phase of the study focused on long-term placements, i.e. placements that are intended to last at least until the child reaches the age of 18 years.

Sample selection

Social service placement data was obtained for the original study population as of the 31st March 2007. Analysis of this data indicated that children were living in one of five different types of placement: adoption; foster care; kinship foster care; on Residence Orders (where carers and birth parents share parental responsibility); or with birth parents. An initial sample of 135 children

selected for recruitment, with an expectation of 75 children/young people (15 in each group) and their parents/carers agreeing to participate.

Data collection

Data were collected in the family home using both quantitative and qualitative methods with the children and their parents/carers.

Instruments

The Strengths and Difficulties Questionnaire – SDQ (Goodman, 1997)

As previously mentioned, this is a commonly utilised behavioural screening questionnaire for assessing psychological morbidity in children and adolescents, based on the subjective perceptions of parents, carers and teachers. It comprises 25 items divided into five scales: Emotional Symptoms; Conduct Problems; Hyperactivity/Inattention; Peer Relationship Problems; and Prosocial Behaviour. A total difficulties score is based on the combined scores from each of the scales, with the exception of the prosocial behaviour scale. The prosocial scale plays no part in analysis as it is not related to behavioural deficits, which the SDQ is designed to detect, but may be useful in clinical applications where a more holistic perspective on a young person's behaviour is required. Scores are classified as normal, borderline or abnormal. Approximately 10 per cent of a community sample scores within the abnormal range on each domain, with a further 10 per cent in the borderline range. The SDQ has been shown to have adequate discriminant and predictive validity (Goodman, 1997; Goodman & Scott, 1999), and correlates strongly with the Rutter Child Behaviour Questionnaires (Goodman, 1997) and the Child Behaviour Checklist (Achenbach & Rescorla, 2000).

The suitability of using the SDQ to assess mental health functioning in a community sample was considered by Vaz *et al.* (2006). They examined the inter-rater agreement and screening concordance of the parent and teacher versions of the SDQ at scale, subscale and item levels, and determining whether the concordance between parent and teacher reports on some items had the potential to influence decision making. They analysed cross-sectional data from parent and teacher

reports of the mental health functioning of a community sample of 299 students with and without disabilities from 75 different primary schools. They concluded that the SDQ is not optimised for use in community samples and further psychometric evaluation of the measure is warranted.

The Parenting Stress Index – Short form – PSI/SF (Abidin, 1990)

This is a measure of stress in the parent–child relationship. It contains 36 items across four sub-scales: *Defensive Responding*; *Parental Distress*; *Parent–Child Dysfunctional Interaction*; and *Difficult Child*. The measure provides a score for each of the sub-scales, in addition to a total stress score. Normal scores fall between the 15th and 80th percentiles, with abnormally high scores being at or above the 85th percentile. It was developed from factor analysis of the full-length PSI and strongly correlates with the full-length version: Total Stress and Total Stress = .94, Parental Distress and Parent Domain = .92, Difficult Child and Child Domain = .87, and has good test-retest reliability: Total Stress (.84), Parental Distress (.85), Parent-Child Dysfunctional Interaction (.68), and Difficult Child (.78) (Abidin, 1995).

The PSI-SF was critically evaluated by Reitman, Currier, and Stickle (2002), specifically in the context of a Head Start (low income, predominantly minority) population. The results supported the use of the PSI-SF with lower socio-economic groups, and provided indirect support for the generalizability of Abidin's (1995) three-factor model of parenting stress. More recently, the validity and reliability of the PSI-SF was examined by Pérez-Padilla, Menendez and Lozano (2015). Using data gathered from 109 at-risk mothers receiving supportive interventions from social services, they found a satisfactory level of internal consistency coefficients for the scale. They also found that, in relation to the validity of the measure, the total PSI-SF score, but not the two sub-scales, could be useful for differentiating between different groups of mothers with varying levels of risk. They concluded that on this basis the PSI-SF may be a useful instrument for researchers and practitioners who work with at-risk families.

It also needs to be noted that the PSI-SF is a measure of parenting stress, and not overall

stress itself. Furthermore, it measures parenting stress subjectively, rather than providing an objective account of physical feelings, perhaps derived from the analysis of biological data (e.g. from saliva or bodily hair). There are also a multitude of factors that have the capacity to impact on the extent to which parents are stressed, for example, financial worries, employment (or lack of) difficulties, relationship problems with spouse and or other member of family or peer group. These are not comprehensively examined by the PSI-SF, which may limit its capacity to fully capture parenting stress holistically, particularly as most contemporary theorists in this area of work would emphasise the multi-factorial dimension of parenting stress, involving interactions of the child, parent and context (Reitman *et al.*, 2002).

Sample

Following the recruitment process, 72 children and their parents and carers agreed to take part. These were: 17 adopted children and their adoptive parents; 16 children in non-relative foster care and their foster carers; 13 children on Residence Order and their carers; 13 children in relative (kinship) foster care and their foster parents; and 13 children living with birth parents and these birth parents. All interviews were conducted between March 2009 and January 2010, when the children were aged between nine and 14 years old. This age range was not specifically targeted, but was subject to the timing of approval of funding for the study (2007), and the earliest point that fieldwork could commence (2009). So, this could have been any five year time span throughout the adolescent period.

The age the children were placed in their current placements ranged from birth to 10 years, with an average of 2 ½ years, whilst the length of time they had lived in their current placement ranged from three to 14 years, with an average of 10 years. It was also clear that where children were placed in foster care, kinship foster care, and on a Residence Order, in each instance, although not legally parents of these children, the carers considered that they were providing a parental role. As such, the use of the PSI-SF was deemed appropriate for use in assessing stress in these

relationships.

Analysis

For the comparison of parent and carer scores on the SDQ and PSI-SF, a range of descriptive analyses were conducted, in addition to two inferential approaches, using Pearson Chi-Square and Pearson Correlation Coefficient.

Ethical considerations

For this study, two separate ethical applications were made to the Office for Research Ethics Committees in Northern Ireland (ORECNI). The first dealt with gaining access to the placement data from social services, which enabled the identification of the interview sub-sample (07/NIR02/47). The second focused on the methodological approach taken for the interviews with children and their parents/carers (08/NIR01/48). Both of these applications received favourable opinions.

Results

Descriptive statistics

On the SDQ, 32% (n=23) of parents and carers had 'Total Difficulties' scores within the abnormal range, compared with an anticipated 10% from a community sample. On the PSI-SF, 33% of parents and carers had 'Total Stress' scores within the abnormal range, compared with 15% anticipated from a community sample. Cross-tabulation of responses on the two measures indicated that 57% (n=41) of the total sample (n=72) had scores in the normal range for both measures, 22% (n=16) had scores in the abnormal range for both, and 21% (n=15) had a normal score on one measure and an abnormal score on the other. Overall, 79% (n=57) of the sample had scores that were within the normal or abnormal range on both measures.

Inferential statistics

A Pearson Chi-Square test of independence was performed to examine the relationship between SDQ 'Total Difficulties' and PSI-SF 'Total Stress' scores. This was found to be significant, $\chi^2 (1, N = 72) = 19.97, p < .001$. This indicates that responses from parents and carers on the two measures were more likely to be within either both normal and abnormal ranges, rather than a combination of scores within the normal and abnormal ranges.

Scores on SDQ 'Total Difficulties' and PSI-SF 'Total Stress' were also strongly positively correlated, $r(72) = .71, p = .00$ (applying Pearson Correlation Coefficient). Furthermore, the correlation was consistent across all five types of placement: on Residence Order, $r(13) = .62, p = .03$; living with birth parents, $r(13) = .64, p = .02$; adopted, $r(17) = .74, p = .00$; kinship foster care, $r(13) = .78, p = .00$; and foster care, $r(16) = .80, p = .00$. Figure 1 displays a scatterplot of scores on these two measures across the full sample ($n=72$), with plotted regression line, $R^2 = .50$.

A significant difference was found in SDQ 'Total Difficulties' scores for males ($M=14.73, SD=7.8$) and females ($M=9.70, SD=8.0$), $t(68) = 2.63, p = 0.010$. A mean difference was also found in PSI-SF 'Total Stress' scores between males (78.30) and females (70.30), but this was not significant. On both measures, boys received higher mean scores from their parents and carers, indicating increased risk of clinical levels of behavioural and emotional dysfunction and parenting stress for boys. However, the gender of the children, in addition to their age of at interview, their age when initially placed, and their length of time in placement were all controlled for in the analysis and none of these variables were found to have any influence on the correlation between the two measures.

Figure 1: Scatterplot of parent/carer scores ($n=72$) on SDQ 'Total Difficulties' and PSI/SF 'Total Stress'

Figure 1 here

Figure 1 shows a clear positive correlation, indicating that the strength of association between the two measures is high ($r=.71$). R-square is a statistical measure of how close the data are to the fitted

regression line. It is the percentage of the response variable variation that is explained by a linear model. As such, it can also be noted that as much as 50% (0.705^2) (R^2 Linear = 0.497) of the variation for scores on SDQ 'Total Difficulties' is explained by the scores for PSI-SF 'Total Stress'.

Pearson Correlation Coefficient analyses were also carried out between the different subscales in both the SDQ and PSI-SF. Table 1 shows that, with the exception of the relationship between PSI-SF 'Parental Distress' and the SDQ domains of 'Emotional Symptoms' and 'Hyperactivity', all of these were significant. As might be expected, correlations between the pro-social scale of the SDQ, and all the domains of the PSI-SF, were negative, indicating that the higher the score on the pro-social domain the lower the scores on the PSI-SF domains. In other words, depictions of the children's kind/caring behaviour were correlated with depictions of low stress by the parents and carers.

Table 1: Pearson correlations between PSI-SF and SDQ subscales (n=72) (significance levels in bold)

SDQ Domains		PSI-SF Domains			
		Parental Distress	Parent-Child Difficult Interaction	Difficult Child	Total Stress
Emotional Symptoms	Correlation	.097	.547	.692	.502
	Significance	.552	.000	.000	.000
Conduct Problems	Correlation	.429	.744	.706	.744
	Significance	.000	.000	.000	.000
Hyperactivity	Correlation	.147	.462	.612	.498
	Significance	.219	.000	.000	.000
Peer Problems	Correlation	.268	.523	.480	.503
	Significance	.023	.000	.000	.000
Prosocial Behaviour	Correlation	-.390	-.523	-.367	-.492
	Significance	.001	.000	.002	.000
Total Difficulties	Correlation	.321	.688	.751	.705
	Significance	.006	.000	.000	.000

Discussion

The results presented in this article provide strong evidence that the Strengths and Difficulties Questionnaire (SDQ) may be considered a proxy measure of parenting stress, as measured by the Parenting Stress Index – Short Form (PSI-SF). The strength of the positive correlation between

responses on the two measures, and the negative correlations regarding the pro-social scale, supported by the Chi-Square analysis, demonstrates that, in most instance, parents and carers who scored within the normal range for the SDQ, also scored within the normal range for the PSI/SF, and those who scored within the abnormal range for the SDQ, also scored with the abnormal range for the PSI-SF.

Some of the findings shown here are consistent with similar results from the literature. As in the current study, in Osborne and Reed's (2009) studies, a clear relationship was found between parenting stress and child behavioural problems. Moreover, we found that the PSI-SF 'Difficult Child' subscale was strongly associated with the SDQ 'Total Difficulties' and 'Conduct Problems' subscale. Similarly, in a study of low-income parents in the US (Reitman *et al.*, 2002), maternal report of child behaviour problems was most strongly related to the PSI-SF 'Difficult Child' subscale.

This then begs the question, what is the direction of this relationship? Is parenting stress influencing children's behaviour or is children's behaviour influencing parenting stress? Which came first, the stress or the behaviour? Webster-Stratton (1990) commented that stress can cause parents to be irritable, uncommunicative, critical and harsh in their parenting style, thus being more likely to cause problematic behaviour in their children, resulting in more stress, thus creating a vicious circle. This perspective places the starting point at the parental level, which then raises the question as to what was causing the initial parenting stress? Was it the behaviour of the children? These chicken and egg type conundrums are by their very nature intractable. However, it might be argued that, irrespective of the origin of parental stress responses and problematic child behaviour, the relationship between these two is interdependent, one influencing the other in both positive and negative ways.

Recent research findings suggest that the impact of this relationship is stronger from the adolescent to the parent than vice-versa (Kerr, Stattin & Ozdermir, 2012), and that problematic behaviour in adolescent girls can lead to the spiralling downwards of these relationships over time

(Huh *et al.*, 2006). Unfortunately, an analysis of these possible divergences of interdependence is beyond the scope of this paper. However, within the current study, the basic premise of symbiosis between parenting stress and child behaviour would appear to explain why those parents and carers who scored the children's behaviour within the normal range, also scored their own parenting stress levels within the normal range, with the same being the case in relation to the abnormal ranges on both measures.

Establishing that the SDQ may be considered a proxy measure of parenting stress has major implications for clinical, educational and social work practice across the UK, and in other jurisdictions where the SDQ is being applied as an assessment tool. In England, since 2008 government policy has placed a duty on all Local Authorities (local government authorities with responsibility for delivering social services) to use the SDQ with all children entering care, and at regular intervals thereafter (DCSF, 2008). Systems have been established to alert social workers and managers to scores that are recorded for these children within the abnormal range, so that in instances where the child is not currently receiving some form of therapeutic intervention, appropriate referrals can be made for specialist assessment and treatment (DfE, 2015).

The statutory use of the SDQ with children in care in England is a very positive development in terms of meeting the behavioural, emotional and educational needs of this vulnerable population. However, the findings highlighted in this article of a strong correlation between the SDQ and the PSI-SF, suggest that a singular focus on the child when evidence of abnormal behaviour emerges, may be an incomplete approach to the problem. Where children's behaviour scores are found to be within the abnormal range, the findings of the current study would indicate that there is also quite likely to be a correspondingly abnormal level of parenting stress being experienced by the parents and carers.

As such, it would seem sensible that interventions should be offered at both the child and parent/carer levels. At the very least, clinicians and practitioners should be prompted to consider

parental coping levels where SDQ scores show clinical deficits in children's behaviour. Given the apparent symbiotic nature of the child behavioural and parental stress relationship, the provision of remedial support within both domains would appear to be more likely to lead to successful outcomes, than focusing on a singular domain.

Although the findings of the current study demonstrate a strong positive correlation between the SDQ and PSI-SF, this does not detract from the suitability or validity of these measures for use within their singular domains. Both provide important data on the child and parent-level domains that they were developed to investigate. However, the findings have illustrated how closely connected these child and parent domains are, and that, with particular reference to the SDQ which is used extensively by social services in the UK, when scores within the abnormal range are recorded, then levels of parenting stress should be additionally considered, and support provided if necessary.

Possible Limitations

It might be argued that the reason such a strong correlation between these two measures has been found is primarily due to the fact that some of the items contained in the two measures are similar, rather than being indicative of the close relationship between children's behaviour and parenting stress. It is the case that at least 11 of the 36 items on the PSI-SF, specifically within the 'Parent-Child Dysfunctional Interaction' and 'Difficult Child' domains, are closely related to questions in the SDQ. For example, item 27 on the PSI-SF is '*I feel that my child is moody and easily upset*', whilst item 5 on the SDQ is '*often has temper tantrums or hot tempers*', and item 8 is '*many worries, often seems worried*'.

However, we would argue that this similarity is inevitable, as one measure (SDQ) is attempting to reflect a specific set of behaviours that have been carefully selected to illicit responses from parents/carers that will provide important information on the behavioural functioning of children (SDQ), whilst the other (PSI-SF) is attempting to reflect a specific set of behaviours that have

been carefully selected to illicit responses from parents/carers that will provide important information on the ways that certain child behaviours make them feel, and which has been defined as reflecting levels of parenting stress.

It is, in fact, precisely the similarity between the domains of child behavioural functioning and parenting stress that is being highlighted in this article, and the logic then of utilising assessments based upon the SDQ to enable further consideration of the extent to which parents/carers may be experiencing parenting stress, without the need to universally apply an additional measure of parenting stress, which would be likely to be prohibitively expensive, particularly where the SDQ is being routinely used with children entering the care system in England. Where instances of clinical need were found for children using the SDQ, practitioners could then assess the corresponding needs of parents and carers using either quantitative or qualitative measures of parenting stress, or a combination of both.

Future Directions

The findings of this study would encourage further investigation of the links between children's behaviour and parenting stress, perhaps more specifically in terms of understanding further the contexts for scores on both these measures being within the normal and clinical ranges. Better knowledge of the wider factors that may be related to the functional and dysfunctional nature of parent/child relationships, and how this might develop, would assist practitioners better support families, and more specifically, families where the child or children have experienced (adoption or rehabilitation to birth parents), or are currently, in care. These wider factors are currently being considered within the fourth phase of the study, which is being funded by the UK Economic and Social Research Council (ESRC), and is focused on the late teens and early adulthood.

Conclusion

The basic premise of this article, that where children are experiencing behavioural problems, parents and carers are also likely to be experiencing parental stress, may appear so self-evident as to negate

the need for empirical evidence to support the assertion. However, we consider that the existence of such a relationship between these two domains has such profound implications for clinical, educational, and social work practice underpinned by the application of the SDQ, that it is important to establish the nature of this relationship empirically. The findings presented in this article have done this emphatically. This has enabled us to argue that, where the SDQ is being used in clinical, educational, and social work practice as a means of identifying need for intervention with children, there should be some cognisance taken of the fact that scores within the abnormal range are also very likely to be indicative of abnormal levels of parenting stress.

The literature review highlighted the detrimental impact that high levels of parenting stress can have for children in care and adopted from care, perhaps even threatening the stability placements. As such, we consider that using the SDQ within clinical, educational and social work practice additionally as a proxy measure of parenting stress, would be an effective way to help ensure that problems in these families, at both the child and parent/carer level, are identified and appropriately addressed. Indeed, in terms of early prevention/intervention, a shift in focus from the child, and targeting interventions to remedying problems in this singular domain, to a more joint parental child-relationship approach from the outset, may go some way to fast-tracking the mediation of the difficulties being experienced.

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References

Abidin, R. (1992) 'The determinants of parenting behaviour', *Journal of Clinical Child Psychology*, **21**

(4), pp. 407-412.

Abidin, R. (1995) *The Parenting Stress Index Short Form*, (third edition), Odessa, FL: Psychological Assessment Resources.

Achenbach, T.M. and Rescorla, L.A. (2000) *Manual for the ASEBA Preschools Forms and Profiles*, Burlington, VT: University of Vermont Department of Psychiatry.

Biehal, N., Ellison, S., Baker, C. and Sinclair, I. (2010) *Belonging and Permanence: Outcomes in Long-Term Foster Care and Adoption*, London: BAAF.

Cameron, S.J., Dobson, L.A. and Day, D.M. (1991) 'Stress in parents of developmentally delayed and non-delayed preschool children', *Canada's Mental Health*, **39** (1), 13-17.

Carbone, J.A., Sawyer, M.G., Searle, A.K. and Robinson, P.J. (2007) 'The health-related quality of life of children and adolescents in home-based foster care', *Quality of Life Research: An international journal of quality of life aspects of treatment, care and rehabilitation*, **16** (7), 1157-1166.

Connell, C.M., Vanderploeg, J.J., Flaspohler, P., Katz, K.H., Saunders, L., and Tebes, J.K. (2006) 'Changes in placement among children in foster care: A longitudinal study of child, family, and case influences', *Social Services Review*, **80**, pp. 398-418.

Courtney, M.E., Flynn, R.J. and Beaupré, J. (2013) 'Overview of out-of-home care in the USA and Canada', *Psychosocial Intervention*, **22** (3), pp. 163-173.

Dardas, L. A., and Ahmad, M.M. (2014) 'Psychometric properties of the Parenting Stress Index with parents of children with autistic disorder', *Journal of Intellectual Disability Research*, **58** (6), pp. 560-571.

Davis, N.O. and Carter, A. S. (2008) 'Parenting stress in mothers and fathers of toddlers with autism spectrum disorders: Associations with child characteristics', *Journal of autism and developmental disorders*, **38** (7), pp. 1278-1291.

DCSF (2008) *Care Matters: Time to Deliver for Children in Care*, London: Department for Children,

Schools and Families.

DfE (2015) *Promoting the Health and Wellbeing of Looked After Children*, London: Department of Education.

Dregan, A., Brown, J., and Armstrong, D. (2011) 'Do adult emotional and behavioural outcomes vary as a function of diverse childhood experiences of the public care system?', *Psychological Medicine*, **41** (10), pp. 2213-2220.

Dunne, E.G. and Kettler, L.J. (2008) 'Grandparents raising grandchildren in Australia: Exploring psychological health and grandparents' experience of providing kinship care', *International Journal of Social Welfare*, **17**, pp. 333–345.

Egelund, T. and Lausten, M. (2009) *Prevalence of Mental Health Problems among Children Placed in Out-of-Home Care in Denmark*, Oxford: Blackwell Publishing Ltd.

Farmer, E., Lipscombe, J. and Moyers, S. (2005) 'Foster carer strain and its impact on parenting and placement outcomes for adolescents', *British Journal of Social Work*, **35**, pp.237-253.

Ford, T., Vostanis, P., Meltzer, H. and Goodman, R. (2007) 'Psychiatric disorder among British children looked after by local authorities: Comparison with children living in private households', *The British Journal of Psychiatry*, **190**, pp. 319-325.

Goemans, A., VanGeel, M. and Vedder, P. (2016) 'Psychosocial functioning in Dutch foster children: The relationship with child, family, and placement characteristics', *Child Abuse & Neglect*, **56**, pp. 30-43.

Goodman, R. (1997) 'The Strengths and Difficulties Questionnaire: A research note', *Journal of Child Psychology and Psychiatry*, **38**, pp. 581–586.

Goodman, R., Meltzer, H. and Bailey, V. (1998) 'The Strengths and Difficulties Questionnaire: A pilot study on the validity of the self-report version', *European Child and Adolescent Psychiatry*, **7**, pp. 125-130.

- Goodman, R. and Scott, S. (1999) 'Comparing the Strengths and Difficulties Questionnaire and the Child Behaviour Checklist: Is small beautiful?', *Journal of Abnormal Child Psychology*, **27**, pp. 17–24.
- Hall, H.R., and Graff, J.C. (2011) 'The relationships among adaptive behaviors of children with autism, family support, parenting stress, and coping', *Issues in Comprehensive Pediatric Nursing*, **34** (1), pp. 4-25.
- Hanson, J.L., Nacewicz, B.M., Sutterer, M.J., Cayo, A.A., Schaefer, S.M., Rudolph, K.D. and Davidson, R.J. (2015) 'Behavioral problems after early life stress: Contributions of the hippocampus and amygdala', *Biological Psychiatry*, **77** (4), pp. 314-323.
- Harris-Waller, J., Granger, C. and Gurney-Smith, B. (2016) 'A comparison of parenting stress and children's internalising, externalising and attachment-related behaviour difficulties in UK adoptive and non-adoptive families', *Adoption & Fostering*, **40** (4), pp. 340-351.
- Havlicek, J. and Courtney, M.E. (2015) 'Maltreatment histories of aging out foster youth: A comparison of official investigated and self-reports of maltreatment prior to and during out-of-home care', *Child Abuse & Neglect*, **52**, pp. 110-122.
- Huh, D., Tristan, J., Wade, E. And Stice, E. (2006) 'Does problem behavior elicit poor parenting? A prospective study of adolescent girls', *Journal of Adolescent Research*, **2**, pp. 185–204.
- Jiménez-Morago, J.M., León, E., and Román, M. (2015) 'Adversity and adjustment in children in institutions, family foster care, and adoption', *The Spanish journal of psychology*, **18**, E45.
- Jiménez, J.M., Mata, E., Leon, E. and Muñoz, A. (2013) 'Parental stress and children adjustment in kinship foster families', *Spanish Journal of Psychology*, **16**, E39.
- Judge, S. (2004) 'Adoptive families: the effects of early relational deprivation in children adopted from Eastern European orphanages', *Journal of Family Nursing*, **10** (3), pp. 338–356.
- Kelley, S.J., Whitley, D.M. and Campos, P.E. (2011) 'Behavior problems in children raised by grandmothers: The role of caregiver distress, family resources, and the home environment', *Children*

and Youth Services Review, **33** (11), pp. 2138-2145.

Kerr, M., Stattin, H., & Özdemir, M. (2012) 'Perceived parenting style and adolescent adjustment: Revisiting directions of effects and the role of parental knowledge', *Developmental psychology*, **48** (6), pp. 1540-1553.

Lee, J.P., Lee, R.M., Hu, A.W. and Kim, O.M. (2015) 'Ethnic identity as a moderator against discrimination for transracially and transnationally adopted Korean American adolescents', *Asian American Journal of Psychology*, **6** (2), pp. 154-163.

McCarthy, G., Janeway, J. and Geddes, A. (2003) 'The impact of emotional and behavioural problems on the lives of children growing up in the care system', *Adoption & Fostering*, **27**, pp. 14–19.

McGlone, K., Santos, L., Kazama, L., Fong, R. and Mueller, C. (2002) 'Psychological stress in adoptive parents of special needs children', *Child Welfare*, **81**, pp. 151–171.

McSherry, D., Larkin, E., Fargas, M., Kelly, G., Robinson, C., Macdonald, G., Schubotz, D., & Kilpatrick, R. (2008). *From care to where? A care pathways and outcomes report for practitioners*. Belfast, Institute of Child Care Research, Queen's University.

McSherry, D., Weatherall, K., Larkin, E., Fargas Malet, M., & Kelly, G. (2010). Who goes where? Young children's pathways through care in Northern Ireland. *Adoption & Fostering*, **34** (2), 23-37.

McSherry, D., Fargas Malet, M. & Weatherall, K. (2013). *Comparing long-term placements for young children in care: The care pathways and outcomes study – Northern Ireland*. London: British Association for Adoption and Fostering (BAAF).

McSherry, D., Fargas Malet, M., McLaughlin, K., Adams, C., O'Neill, N., Cole, J., and Walsh, C. (2015). *Mind your health: The physical and mental health of looked after children and young people in Northern Ireland*. Belfast: Institute of Child Care Research, Queen's University.

McSherry, D., Fargas Malet, M. & Weatherall, K. (2016). Comparing long-term placements for young

children in care: Does placement type matter? *Children & Youth Services Review*, **69**, pp. 56-66.

Meltzer, H., Corbin T., Gatward, R., Goodman, R. and Ford, T. (2003) *The Mental Health of Young People Looked After by Local Authorities in England*, London: Office of National Statistics.

Milburn, N.L., Lynch, M. and Jackson, J. (2008) 'Early identification of mental health needs for children in care: A therapeutic assessment programme for statutory clients of child protection', *Clinical Child Psychology and Psychiatry*, **13** (1), pp. 31–47.

Morgan, K. and Baron, R. (2011) 'Challenging behaviour in looked after young people; feelings of parental self-efficacy and psychological well-being in foster carers', *Adoption & Fostering*, **35**, pp. 18–32.

Nomaguchi, K.M. and Milkie, M. (2003) 'Costs and rewards of children: the effects of becoming a parent on adults' lives', *Journal of Marriage and Family*, **66**, pp. 413–430.

Osborne, L.A. and Reed, P. (2009) 'The relationship between parenting stress and behavior problems of children with autistic spectrum disorders', *Exceptional Children*, **76** (1), pp. 54-73.

Parkes, J., Caravale, B., Marcelli, M., Franco, F., and Colver, A. (2011) 'Parenting stress and children with cerebral palsy: A European cross-sectional survey', *Developmental Medicine & Child Neurology*, **53** (9), pp. 815-821.

Pecora, P.J., Kessler, R.C., Williams, J., Downs, A.C., English, D.J., White, J. and O'Brien, K. (2010) *What Works in Family Foster Care? Key Components of Success from the Northwest Foster Care Alumni Study*, New York and Oxford, England: Oxford University Press.

Pérez-Padilla, J., Menéndez, S. and Lozano, O. (2015) 'Validity of the parenting stress index short form in a sample of at-risk mothers', *Evaluation Research*, **39** (4), pp. 428-446.

Radford, L., Corral, S., Bradley, C., Fisher, H., Bassett, C., Howat, N., & Collishaw, S. (2011) *Child Abuse and Neglect in the UK Today*, London: NSPCC.

Rees, P. (2013) 'The mental health, emotional literacy, cognitive ability, literacy attainment and

'resilience' of 'looked after children': A multidimensional, multiple-rater population based study', *British Journal of Clinical Psychology*, **52** (2), pp. 183-198.

Reinoso, M. and Forns, M. (2010) 'Stress, coping and personal strengths and difficulties in internationally adopted children in Spain', *Children and Youth Services Review*, **32** (12), pp. 1807-1813.

Reitman, D., Currier, R.O. and Stickle, T.R. (2002) 'A critical evaluation of the Parenting Stress Index-Short Form (PSI-SF) in a head start population', *Journal of Clinical Child and Adolescent Psychology*, **31** (3), pp. 384-392.

Richards, L., Wood, N. and Ruiz-Calzada, L. (2006) 'The mental health needs of looked after children in a local authority permanent placement team and the value of the Goodman SDQ', *Adoption & Fostering*, **30**, pp. 43-52.

Rushton, A. and Dance, C. (2006) 'The adoption of children from public care: A prospective study of outcome in adolescence', *Journal of the American Academy of Child & Adolescent Psychiatry*, **45**, pp. 877-883.

Sempik, J., Ward, H. and Darker, I. (2008) 'Emotional and behavioural difficulties of children and young people at entry into care', *Clinical Child Psychology and Psychiatry*, **13**, pp. 221-233.

Stein, M., & Dumaret, A. C. (2011) 'The mental health of young people aging out of care and entering adulthood: exploring the evidence from England and France', *Children and Youth Services Review*, **33** (12), pp. 2504-2511.

Theule, J., Wiener, J., Tannock, R. and Jenkins, J.M. (2013) 'Parenting stress in families of children with ADHD: A meta-analysis', *Journal of Emotional and Behavioral Disorders*, **21** (1), pp. 3-17.

Thomas, C. (2013) *Adoption for Looked After Children: Messages from Research*, London: British Association for Adoption and Fostering (BAAF).

Vanderploeg, J.J.; Connell, C.M., Caron, C., Saunders, L., Katz, K.H. and Tebes, J.K. (2007) 'The impact

of parental alcohol or drugs removals on foster care placement experiences: A matched comparison group study', *Child Maltreatment*, **12**, pp. 125-136.

Vaz, S., Cordier, R., Boyes, M., Parsons, R., Joosten, A., Ciccarelli, M., Falkmer, M., and Falkmer, T. (2016) 'Is using the strengths and difficulties questionnaire in a community sample the optimal way to assess mental health functioning?' *PLoS ONE*, **11** (1): e0144039, doi: 10.1371/journal.pone.0144039.

Vostanis, P. (2010) 'Mental health services for children in public care and other vulnerable groups: Implications for international collaboration', *Clinical Child Psychology and Psychiatry*, **15** (4), pp. 555-571.

Watson, S.L., Hayes, S.A. and Radford-Paz, E. (2011) 'Diagnose me please!: A review of research about the journey and initial impact of parents seeking a diagnosis of developmental disability for their child', *International Review of Research in Developmental Disabilities*, **41**, pp. 31-72.

Webster-Stratton, C. (1990) 'Stress: A potential disruptor of parental perceptions and family interactions', *Journal of Clinical Child Psychology*, **19** (4), pp. 302-312.

Wilson, K., Sinclair, I. and Gibbs, I. (2000) 'The trouble with foster care: The impact of stressful events on foster carers', *British Journal of Social Work*, **30** (2), pp. 193–209.

Woodman, A.C., Mawdsley, H.P. and Hauser-Cram, P. (2015) 'Parenting stress and child behavior problems within families of children with developmental disabilities: Transactional relations across 15 years', *Research in developmental disabilities*, **36**, pp. 264-276.

Zaidman-Zait, A., Mirenda, P., Zumbo, B.D., Wellington, S., Dua, V. and Kalynchuk, K. (2010) 'An item response theory analysis of the Parenting Stress Index-Short Form with parents of children with autism spectrum disorders', *Journal of Child Psychology and Psychiatry*, **51** (11), pp. 1269-1277.